Standard Practice for

Evaluating the Engineering and Environmental Suitability of Recycled Materials

AASHTO Designation: R 65-14 (2018)[1]

Tech Subcommittee: 5c, Quality Assurance and Environmental

Release: Group 1 (April)

AASHTO

American Association of State Highway and Transportation Officials
444 North Capitol Street N.W., Suite 249
Washington, D.C. 20001

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1. SCOPE

1.1. This practice is to provide a general evaluation framework for assessing the feasibility to use recycled materials in the highway environment.

1.2. This document was developed using the *Framework for Evaluating Use of Recycled Materials in the Highway Environment*.

2. REFERENCED DOCUMENTS

2.1. *AASHTO Resolution*:

- PR-14-01, Use of Recycled Materials

2.2. *FHWA Reports*:

- FHWA-RD-00-140, *Framework for Evaluating Use of Recycled Materials in the Highway Environment*
- FHWA-RD-97-148, *User Guidelines for Waste and Byproduct Materials in Pavement Construction*

3. GENERAL PROVISIONS

3.1. It is recommended that the *User Guidelines for Waste and Byproduct Materials in Pavement Construction* be referred to before using this practice, as many common recycled materials for highway uses have already been evaluated with this method and are documented in the *User Guidelines.*

3.2. AASHTO resolution PR-14-01, Use of Recycled Materials, encourages the use of recycled materials in transportation applications where engineering, economic, and environmental conditions warrant their use.

4. SUMMARY OF THE PRACTICE

4.1. The evaluation framework is illustrated in a flowchart format as shown in Figure 1. There are five steps in the framework and three screening stages. The framework provides for combining or

skipping steps if it is clear that such action is appropriate. The framework also provides, as part of the stepwise evaluation process, the means to modify or beneficiate materials that do not meet criteria so that there is an opportunity to revise the application based on new data obtained during the evaluation process.

4.2. *Framework Limitations*—This document is an attempt to provide an overall comprehensive evaluation framework that decision makers can use in evaluating recycled material use in highway applications. Although much progress has been made in the development of these procedures, the complexity associated with defining evaluation procedures and criteria demands that the evaluator select the best test methods and criteria subject to local conditions and that the criteria and test methods presented be continually updated as new information is made available. The multidisciplinary engineering and environmental efforts involved in implementing the steps outlined in the framework will require that state engineering and environmental agencies forge cooperative efforts, pooling the necessary resources to undertake the evaluation effort. Only through such cooperative efforts can the complex issues that need to be addressed receive proper attention and ensure the appropriate use of recycled materials in the highway environment.

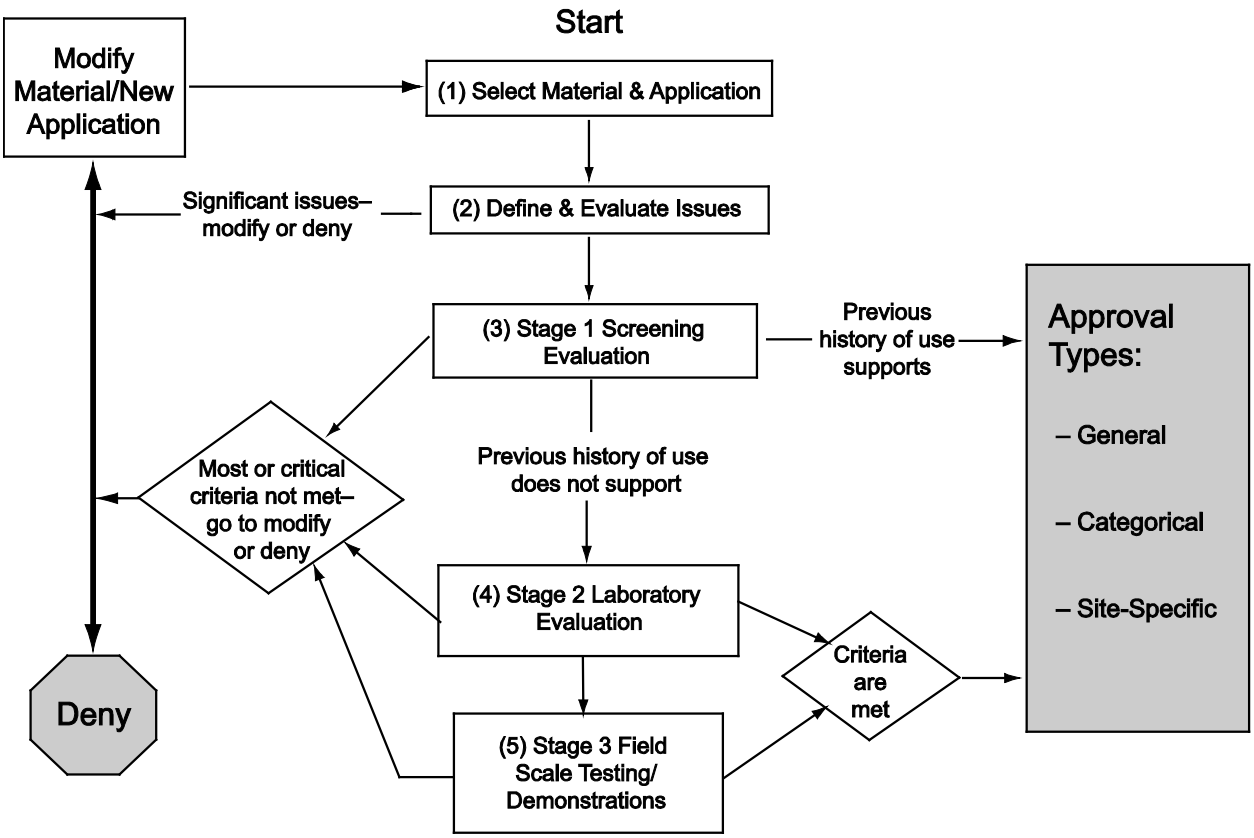

Figure 1—Evaluation Framework Flow Process

5. PROCEDURE

5.1. *Step 1—Select Material and Application*—The first step in the framework process is to select a material and a specific application (e.g., use blast furnace slag in embankment construction) that will be evaluated.